

CONTINUOUS COMPRESSION IMPLANTS

Continuous Compression Implants may provide better clinical outcomes, economic value and enhanced patient value.

CLINICAL VALUE

Favorable Strength, Stiffness, and Stability

DePuy Synthes BME SPEED™ Compression Implant Constructs Demonstrated:

- Statistically higher ($p < 0.001$) mean compressive loads and contact areas across the osteotomy compared to plate fixations¹
- Significantly higher stiffness and endured larger loads before 2mm gap formation compared to plate fixations in the dorsoventral plane ($P < 0.001$)¹



Foot & Ankle

High Rates of Union

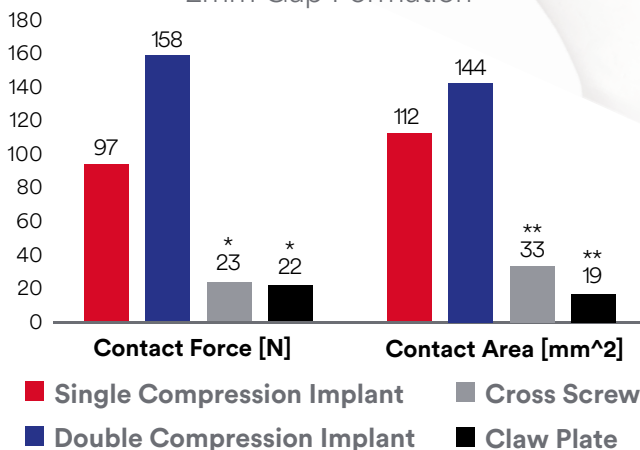
93.8% Union Rate

for midfoot and hindfoot arthrodesis using DePuy Synthes Nitinol Continuous Compression Implants.²

Dynamic Fixation With Sustained Compression Across The Arthrodesis

Single and Double Compression Implants Induced Significantly Greater Contact Force and Area Across the Arthrodesis Than Crossed Screw and Claw Plate Constructs^{5†}

Contact Force and Area Across the Arthrodesis at 2mm Gap Formation



*Denotes statistical significance against single & double compression implants ($p < 0.05$)

**Denotes statistical significance against single & double compression implants ($p < 0.01$)

†Biomechanical study conducted in Sawbone model

Hand & Wrist

Lower Rates of Complication

Superior Rate of Nonunion

↓ 0% vs 18.2%

for capitulate arthrodesis using continuous compression implants and screws respectively.³

Low Rate of Implant-Related Complication

↓ 6% vs 27%

rates of implant-related complications for compression implants and screws respectively.³

Patient Value

14.3
DAYS

to No Pain and No Pain Medication Usage⁴



18.1
DAYS

to 1st Metatarsophalangeal Joint (MPI) Range of Motion >65⁴



21.6
DAYS

to Full Activity⁴



for hallux valgus deformity treated with Austin Bunionectomy using continuous compression implants⁴

ECONOMIC VALUE

Reduce Process Steps by



When Compared to Reusable Sets*

*15 steps in standard reprocessing and 5 steps for single-use kits equates to 67% reduction in process steps.

The DePuy Synthes Continuous Compression Implant Single-Use kits may help reduce costs associated with sterilization, transport, and handling. Furthermore, it may help improve efficiency and minimize delays in the OR.



The SPEEDARC™ and SPEEDTRIAD™ Implant can be used effectively to **reduce operating room time**^{2,6}

The DePuy Synthes Continuous Compression Implant provide comprehensive solutions to help **Hospital Standardization of Equipment and Supplies**⁷



Standard process steps for reusable sets

Surgery scheduled
Implants and instruments ordered for case
Trays delivered to hospital
Trays are washed and cooled
Trays are checked for completeness
Trays are sterilized
Sterile product transported to OR
Trays is checked for blue wrap tears in OR
Implants and instruments are unpacked for use in surgery
Used implants are logged and catalog numbers recorded for reordering
Used trays transported to SPD
Used instruments are handwashed
Tray is machine washed
Trays is sterilized
Tray is moved to SPD storage or collected by sales consultant
Multiple process steps that can be eliminated

REFERENCES: **1.** Hoon QJ, Pelletier MH, Christou C, Johnson KA, Walsh WR. Biomechanical evaluation of shape-memory alloy staples for internal fixation – an in vitro study. *J Exp Orthop.* 2016; 3(1):19. **2.** Schipper ON, Ford SE, Moody PW, Van Doren B, Ellington JK. Radiographic results of nitinol compression samples for hindfoot and midfoot arthrodesis. *Foot Ankle Int.* 2018; 39(2):172-179. **3.** Tait M, Bracey JW, Lewis DR, Gaston G, Loeffler B. Comparison of early outcomes and complications of scaphoid excision and capitulate arthrodesis with screws versus staples. American Association for Hand Surgery; January 10-14, 2017; Waikoloa, HI, USA. **4.** Sarchino WJ, Banh MN, McGuire SM, Yoo EK. Surgical outcomes of BME SPEEDTRIAD staple for chevron osteotomy. American College of Foot and Ankle Surgeons; February 27-March 2, 2017; Las Vegas, NV, USA. **5.** Aiyer A, Russell NA, Pelletier MH, Myserson M, Walsh WR. The impact of nitinol staples on the compressive forces, contact area, and mechanical properties in comparison to a claw plate and crossed screws for the first tarsometatarsal arthrodesis. *Foot Ankle Spec.* 2016; 9(3): 232-240. **6.** Budny A. Use of SPEEDTRIAD and SPEEDARC shape memory implants for fixation of Austin and Akin osteotomies. *BME (BioMedical Enterprises, Inc);* 2016. **7.** Delatore P, Bourque M, Ferko N. The value of stock keeping unit (SKU) reduction and standardization initiatives within a hospital system. ISPOR 21st Annual International meeting. May 21-25, 2016.

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Please also refer to the package insert(s) or other labeling associated with the devices identified in this value analysis brief for additional information.

CAUTION: Federal Law restricts these devices to sale by or on the order of a physician.

Some devices listed in this value analysis brief may not have been licensed in accordance with Canadian law and may not be for sale in Canada. Please contact your sales consultant for items approved for sale in Canada.

Not all products may currently be available in all markets.

Please refer to the instructions for use for a complete list of indications, contraindications, warnings and precautions.



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